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EXAMINER	
CADUGAN, ERICA E	
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29

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/147,398	Applicant(s) KAULE ET AL.	
	Examiner Erica E Cadugan	Art Unit 3722	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 September 2003*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,4-18,20-22,24,28-33,36,37,40,42,44 and 45* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *24 and 28-33* is/are allowed.

6)☒ Claim(s) *1,2,4-18,20,21,36,37,40,42,44 and 45* is/are rejected.

7)☒ Claim(s) *22* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Faxing of Responses to Office Actions

1. In order to reduce pendency and avoid potential delays, TC 3700 is encouraging FAXing of responses to Office Actions directly into the Group at (703) 872-9306. This practice may be used for filing papers not requiring a fee. It may also be used for filing papers which require a fee by applicants who authorize charges to a PTO deposit account. Please identify the examiner and art unit at the top of your cover sheet. Papers submitted via FAX into TC 3700 will be promptly forwarded to the examiner.

Claim Objections

2. Claim 44 is objected to because of the following informalities: in line 1, it appears that --of-- should be inserted prior to "a second depression". Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claim 42 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 42 recites the limitation "said additional information" in line 2. There is insufficient antecedent basis for this limitation in the claim. Note that it is not inherently understood from claim 42 as claimed whether "said additional information" refers to the "information" set forth in claim 28.

Claim Rejections - 35 USC § 102/103

5. Claims 1-2, 4, 6, 14, 16-17, and 37 are rejected under 35 U.S.C. 102(b) as anticipated by U.S. Pat. No. 5,246,319 (Prince et al). Alternatively, claims 1-2, 4-6, 14, 16-17, and 37 are rejected under 35 USC 103(a) as being obvious over the Technical Manual from Lang GmbH & Co. Kg, cited by Applicant on the IDS submitted March 24, 2003 (hereinafter "Lang") in view of Prince et al.

Prince et al. teaches a cutting method wherein a tool (shown in Figure 1a with conical tip portion 103) is numerically controlled to produce a "depression" in the form of a "line", for example, the generally vertical portion of the "F" shown in Figures 1a and 1b. Note that Prince et al. specifically teaches that the method can be used to produce "letters" (col. 1, lines 64-68), and that the letter "O", for example, is a closed shape and particularly has the claimed "limited partial area". The numerical controller is used to "calculate" tool track data (col. 2, lines 1-38, for example) to move the tool so as to produce the desired "depression". Note that the controller takes into account the tool depth (col. 2, lines 25-28, also col. 4, lines 30-32, for example). Note also that in the instance where an "O" is formed, the tool would not need to be lifted to produce different strokes such as the generally horizontal portions of the "F", and would thus have a "continuous" tool track. Also note that the tool track for the generally vertical portion of the "F" is "continuous" (Figures 1a-1b, for example). Also note that Prince specifically describes carving a letter "P" wherein the rounded part is made with a first path and the linear part is made with a second path, and note that each one of these portions of the letter P is "continuous" (col. 4, lines 44-53.

Regarding claim 2, note that the center of the tool track, i.e., the portion created by the tip 103, extends "contour-parallel" to the "desired contour" (Figures 1a-1b, for example).

Regarding claim 4, note that Prince specifically teaches varying the depth of cut (col. 3, lines 22-25).

Regarding claim 6, note that only "one traverse" of the tool is used in producing the vertical leg of the "F" (column 2, Figure 1a, for example).

Regarding claim 17, Prince teaches that it is known to use rotating tools (e.g., in a router, col. 1, lines 15-30).

Regarding claim 37, note that the tool track "takes into account" the tool width (col. 5, lines 6-41, for example).

Note that as there is nothing preventing the "depressions" taught by Prince from being filled with printing ink, the engraved workpiece taught by Prince is considered to be an "intaglio printing plate".

Alternatively, Lang teaches a "graphical design program for engravers and milling machines", and describes the "fully automated production of a press plate" as described by Applicant in the "Concise Statement of Relevancy" submitted March 24, 2003. However, Lang appears not to show the details of the tool track.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized the method taught by Prince et al. and described above to have incised the plate of Lang for the purpose of taking a "craft and turning it into a technology" as taught by Prince et al. (col. 5, lines 66-68), i.e., increasing accuracy, speed, and repeatability of the engraving process.

Claim Rejections - 35 USC § 103

6. Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 5,246,319 (Prince et al.) as applied to claim 1 above.

Prince et al. teaches all aspects of the claimed invention as described in the above rejection based thereon, and further teaches that the worked material can be a variety of materials, including "metal" (col. 5, lines 57-60), but does not specifically teach that the metal is "steel".

However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have used whatever known material, such as steel, as was desired or expedient, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416. See also Ballas Liquidating Co. v. Allied industries of Kansas, Inc. (DC Kans) 205 USPQ 331.

7. Claims 1-2, 5-11, 14, 16-18, 20, 36, 37, and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Technical Manual from Lang GmbH & Co. Kg, cited by Applicant on the IDS submitted March 24, 2003 (hereinafter "Lang") in view of U.S. Patent No. 4,949,270 (Shima et al.).

Lang teaches a "graphical design program for engravers and milling machines", and describes the "fully automated production of a press plate" as described by Applicant in the "Concise Statement of Relevancy" submitted March 24, 2003. However, Lang appears not to show the details of the tool track. Lang does not appear to teach the material of the plate.

Shima et al. teaches a device for and method of machining a pocket of a desired contour into a surface (column 1, lines 58-68, and column 2, lines 1-4), which constitutes a similar problem solving area to the instant invention. Shima teaches performing such machining at a predetermined depth of cut (column 1, lines 13-15). Shima teaches the use of a tool path 4 that is "intersection-free" as well as at least partially "contour-parallel" to the desired contour 1 (see Figure 16), and which tool path only requires one traverse of the tool (see Figure 16). Shima also teaches that it is known to use a tool path that removes residual area with a second tool track (Figure 13c) which removes material in tracks which are "contour-parallel" to the desired contour (Figure 13c). Alternatively, any time the tool "turns", it could be said to create a new tool path (i.e., the second tool track as claimed in claim 7). For example, in Figure 13b, the tool path starts at the top going from right to left, which could constitute a first track, and then it proceeds to turn and move from top to bottom, which could constitute a second tool track. Shima also teaches that it is known to use a "meander" shaped tool path (see Figure 13b). Specifically regarding claims 10 and 11, when material is removed, a new surface having a roughness will be formed, and when the material is removed via a tool having any of the paths taught by Shima, the new surface will have grooves of one size or another. Specifically regarding claim 14, the desired contour is defined with the aid of a data processing system (column 2, lines 30-46). Specifically regarding claim 18, tools of different kinds or dimensions are used, or it would not be necessary to define the tool shape and diameter as described in column 3, lines 49-52. Note that as the tool diameter is being defined, the tool "width" is being "taken into account".

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized the method of taught by Shima et al. to machine the desired contour into the printing plate taught by Lang for the purpose of using a cutting method that has a "high cutting efficiency" and that is simple to use (col. 1, lines 58-61 of Shima et al., for example).

Specifically regarding the multiple tools of claim 20, Lang does not specify that multiple tools are used, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized multiple tools, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8. Regarding the rotating tool, pocket machining or "end face finishing" (Shima et al., column 3, lines 25-30) requires a rotating tool in order to produce the quality of finish that characterizes a "finishing" operation.

Specifically regarding claim 36, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have used whatever known material, such as steel, as was desired or expedient for the plate taught by Lang, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416. See also Ballas Liquidating Co. v. Allied industries of Kansas, Inc. (DC Kans) 205 USPQ 331.

8. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over either of Lang in view of U.S. Patent No. 4,949,270 (Shima et al.) as applied to claim 1 above, and further in view of U.S. Patent No. 4,972,323 (Cauwet).

The combination of Lang with Shima et al. teaches the aspects of the claimed invention as set forth in the above rejection based thereon, but does not teach using a laser engraving tool.

Cauwet teaches the use of an engraving tool having three axes of movement (column 1, lines 22-25) to vary the depth of cut (column 14, lines 3-17) and to set multiple tooling passes ("one or more further engraving steps" as claimed in claim 12) (see column 14, lines 34-36) in a flat plate workpiece (column 2, lines 5-6). Cauwet also teaches that the engraving tool can be a milling cutter or laser, with the specific type of engraving tool used being dependent on the material of workpiece used (column 2, lines 50-55).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized whatever type of engraving tool was desired depending on the workpiece material type, and particularly to have used a laser engraving tool, as taught by Cauwet, to incise or "engrave" the workpiece taught by Lang with the engraving method taught by Shima et al, for the purpose of being able to engrave workpieces made of materials that are not suitable for engraving with a rotary engraver (Cauwet, column 2, lines 50-55).

9. Claims 1-2, 5-14, 16-18, 20-21, 36-37, 40, and 44-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lang in view of U.S. Patent No. 4,907,164 (Guyder).

Lang teaches a "graphical design program for engravers and milling machines", and describes the "fully automated production of a press plate" as described by Applicant in the "Concise Statement of Relevancy" submitted March 24, 2003. However, Lang appears not to show the details of the tool track. Lang does not appear to teach the material of the plate.

Guyder teaches a method for creating a tool paths for, and subsequently machining, a cavity (col. 2, lines 1-6) "with the aid of a computer program" (col. 4, lines 24-33, for example).

The depth of cut for each set of tool paths is constant, i.e., "the z depth is set and all tool motion is in the x and y planes, another z depth is set and so on" such that "for any one set of tool paths, z is constant (col. 1, lines 10-15). Note, for example, that Guyder teaches various tool paths 113-115, any one of which is "continuous" and defines a "limited partial area" or "desired contour" of a "depression" (see Figures 4-5, for example). Note also that various ones of the tool paths 113-115 extend "contour-parallel to the desired contour" (Figures 4-5). Note that each tool path is performed by a "single working traverse" of the tool (Figures 4-5, for example).

Regarding claims 7 and 44, for example, note that some of the tracks are "located within" other tracks (Figures 4-5).

Regarding claim 9, note that various ones of the tool paths "meander" (Figures 4-5).

Regarding claim 10, note that the engraving inherently produces a new surface with a "defined roughness" at the base of the engraving, i.e., there is a new surface left behind when the material is removed, which surface, as do all surfaces, has a "roughness", and thus a "defined roughness". Note that moving the tool as shown in Figures 4-5 will inherently produce "grooved" roughnesses.

Specifically regarding claim 13, note that the "information", such as the shape, of the engraved area is "humanly recognizable" or "machine-readable" in that it is "able to be humanly recognized", e.g., by viewing, and "able to be read by a machine", e.g., by scanning with a scanner.

Regarding claims 16-17, note that the milling tool described by Guyder is considered a rotating "mechanical chisel".

Regarding claim 21, note that the user must define the tool radius (col. 1, lines 60-68), and thus Guyder provides for the use of tools with varying radii. Also note that the tool "width" is thus "taken into account" (re claim 37).

Regarding claim 18, note that Guyder teaches different types of tools (col. 2, lines 29-35).

Regarding claims 40 and 44, note that any of the inner tool paths can be considered the "second desired contour" (Figures 4-5), and that Guyder teaches producing tool paths at multiple z depths. Thus, an inner tool path at a deep z depth can specifically be considered the "second desired contour" as claimed. Regarding the roughness structures as claimed, again note that removing material will inherently create a surface with a particular roughness, and that Guyder teaches selecting the spacing between tool paths as described above.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized the method taught by Guyder to determine tool paths and subsequently machine (as taught by Guyder) or "engrave" the depression taught by Lang for the purpose of providing a fast, cheap, and flexible automated method of removing the material (col. 1, lines 7-11 of Guyder for example).

Specifically regarding the multiple tools of claim 20, while Lang does not specify that multiple tools are used, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized multiple tools, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

Specifically regarding claim 36, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have used whatever known material, such as

steel, as was desired or expedient for the plate taught by Lang, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416. See also Ballas Liquidating Co. v. Allied industries of Kansas, Inc. (DC Kans) 205 USPQ 331.

10. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lang in view of U.S. Patent No. 4,907,164 (Guyder) as applied to claim 1 above, and further in view of U.S. Patent No. 4,972,323 (Cauwet).

The combination of Lang with Guyder teaches the aspects of the claimed invention as set forth in the above rejection based thereon, but does not teach using a laser engraving tool.

Cauwet teaches the use of an engraving tool having three axes of movement (column 1, lines 22-25) to vary the depth of cut (column 14, lines 3-17) and to set multiple tooling passes ("one or more further engraving steps" as claimed in claim 12) (see column 14, lines 34-36) in a flat plate workpiece (column 2, lines 5-6). Cauwet also teaches that the engraving tool can be a milling cutter or laser, with the specific type of engraving tool used being dependent on the material of workpiece used (column 2, lines 50-55). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized whatever type of engraving tool was desired depending on the workpiece material type, and particularly to have used a laser engraving tool, as taught by Cauwet, to incise or "engrave" the workpiece taught by Lang with the engraving method taught by Shima et al, for the purpose of being able to engrave workpieces made of materials that are not suitable for engraving with a rotary engraver (Cauwet, column 2, lines 50-55).

Allowable Subject Matter

11. Claims 24 and 28-33 are allowed.

12. Claim 22 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

13. Claim 42 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

The statement of reasons for allowance of independent claims 24 was set forth in the office action mailed July 3, 2003.

Response to Arguments

14. Applicant's arguments filed September 29, 2003 have been fully considered, but are not persuasive as they apply to the above rejections.

It is noted that Applicant is correct (see page 11 or Applicant's response filed 9/29/03) in that the "incision" taught by the Jacquerod intaglio plate is not constructed using an engraving tool, but is instead constructed via etching or a photographic method, and as such, the portions of the previous rejections that relied upon Jacquerod for this feature are withdrawn.

Regarding the 102/103 rejection based on U.S. Pat. No. 5,246,319 (Prince et al.), or alternatively, based on the Technical Manual from Lang GmbH & Co. Kg., cited by Applicant on the IDS submitted March 24, 2003 (hereinafter "Lang") in view of Prince et al., Applicant is asserting that none of these references teach the step of calculating a tool track based on both

"the desired contour and a predetermined desired depth of the at least one depression" as recited in independent claims 1 and 45. Applicant has further stated the following:

> It is true that Prince varies the penetration depth, in order to ensure that the tool edge at the surface of the workpiece remains always in contact with both sides of the engraving (col. 3, lines 22 to 25 of Prince). However, the determination of penetration depth does not affect the calculation of the tool track. Instead, the tool track and penetration depth are determined independently, based on desired contour data. While the controller of Prince "takes into account" the tool depth, as stated by the Examiner in the sentence bridging pages 3 and 4 of the Official Action, the tool depth cannot be truly chosen, but rather is a direct function of the desired contour (and the dimensions of the conical tool used).

However, this is not persuasive. Note that by Applicant's own admission, the tool depth is "a direct function of the desired contour", and as such is "predetermined" as claimed, and also as such, the tool track is "based on the desired contour" as well as the "predetermined desired depth". Applicant's assertions regarding the depth being "truly chosen" do not appear to relate to the current claim language, i.e., the current claim language does not set forth any language to patentably differentiate the present claims from Prince's method. Note that Prince specifically teaches (col. 2, lines 25-28) that "[a] tool depth is **determined** at each point along the cutter path such that edges of the tool remain tangent to two sides of the carving at all times", and thus teaches utilizing a predetermined tool depth and a desired contour to create the tool path. Thus, it is noted that the features upon which applicant relies (i.e., any language setting forth the way that the depth is "chosen" or "truly chosen" any the similar arguments thereto as asserted in a way that is distinguishable from Prince) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Additionally, Applicant has asserted that the Jacquerod patent and Lang publication "do not disclose a contour selection method based on desired contour *and* penetration depth". However, it is noted that neither of these references were relied upon to teach this feature. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Applicant has additionally asserted (page 11, last paragraph of the 9/29/03 response) the following:

> The Lang patent, on the other hand, teaches a graphical design program for engravers and milling machines, and is not at all concerned with manufacture of intaglio printing plates. Instead, the method of Lang produces dies, and the Lang patent is concerned with a particular step "Schraffieren, Abraumen" (hatching, removal) that is not at all relevant to either the numerical control method of Prince or the calculation of a tool track in connection with the engraving of an intaglio printing plate, as claimed.

However, this is not persuasive. As set forth by Applicant in the "Concise Statement of Relevancy" submitted March 24, 2003, Lang teaches a "graphical design program for engravers and milling machines", and describes the "fully automated production of a press plate". Additionally note that Applicant sets forth that "[T]he hatching angle, track spacing and sweeping distance have to be specified in order to calculate the billing tracks". Thus, Applicant admits Lang teaches a graphical design program used to calculate tool tracks for an engraver/milling machine in the production of a plate. Additionally, it is noted that as shown and described in the Lang document, the shapes produced have recessed portions therein that are capable of being filled with ink, and therefore, plates produced with such shapes can be considered "intaglio printing plates".

Regarding the rejection under 35 USC 103 over Lang in view of U.S. Pat. No. 4,949,270 (Shima et al.), Applicant has asserted that the Shima patent "fails to disclose or suggest a method of producing intaglio printing plates, as claimed, much less one that includes the step of producing at least one depression in the form of at least one line, the line defining a limited partial area of the surface, and an edge of the partial area defining a desired contour, and calculating a tool track based on the desired contour and also a predetermined desired *penetration depth*" (see page 12 of Applicant's response).

However, this is not persuasive. Firstly, regarding the "intaglio printing plate", it is noted that Shima was not relied upon to teach this feature. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Secondly, regarding the remainder of the steps, as described in the above rejection, Shima teaches "defining" tool paths. Note that these tool paths, especially when traveled by a tool, "define" a desired contour, as well as a "limited partial area" as set forth in the claim. Also note that when these tool paths are followed, a depression will be formed (see Shima, Figures 1 and 13a-13c for example). Regarding the depression being "in the form of a line", it is noted that the depression produced by the tool paths shown in Figures 13a-c and 16, for example, all produce depressions having straight portions, firstly, and secondly, note that the depression shown in Figure 1, for example is in the form of a curved line. Regarding the tool track being based on "a predetermined desired penetration depth", as previously set forth in the rejection based on

Shima, Shima explicitly teaches performing such machining at a predetermined depth of cut (col. 1, lines 13-15). Additionally note that Shima's pocket machining programs are transferred to NC control section 12 in order to perform the pocket machining operation (col. 4, lines 44-47). Inherently, if a pocket is being machined via the pocket machining program, that program, and thus the calculated tool track, must include a depth of cut in order for the program to ever be executed. Otherwise no pocket could ever be machined. In other words, if the depth of cut was not predetermined, an undesired workpiece would be produced, or alternately, if the depth of cut was not predetermined, i.e., was not input or indicated in some way to the controller, it does not appear that any cutting could occur as the controller would not know where in space to locate the cutting tool along the depth direction during the cutting operations.

Regarding Applicant's assertion that neither Jacquerod nor Lang teach these steps, it is noted that neither Jacquerod nor Lang were relied upon to teach these steps. Again, in response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Applicant has also asserted the following:

> The calculation of a tool track according to the method of Shima is based on calculation of start and end points input by a user, and interpolation of connecting lines of curves. Thus, it cannot be said that the calculation of the tool track is Shima is carried out by predetermining a desired contour and a desired penetration depth of the area to be engraved. Instead, the profile outline (POL) is used only as an aid for the user in positioning the cursor and in inputting the coordinates such that the user can manually take care that no section within the profile outline remains unengraved.

However, this is not persuasive. The "predetermined desired depth" has already been addressed.

Regarding the calculation of the tool track based on a "desired contour", it is noted that the POL referred to by Applicant is used by an automatic programming section 11 to determine a tool path TLP (see col. 2, lines 44-60, for example), and thus the tool path or track is "based on" the "desired contour" or outline.

Regarding Applicants' assertions that the "Shima patent actually concerns so-called 'pocket machining' for hollowing out the interior of the profile of a workpiece" and that the "conventional numerical control methods exemplified by Shima and Lang" are "unsuitable for producing *intaglio* printing plates", these assertions are not persuasive. It is noted that the machining steps claimed essentially define a method of removing material from a "pocket" (i.e., the claimed "depression") via a tool. Further, the "intaglio printing plate" limitation was previously addressed above.

If Applicant is asserting that the method taught by Shima is not precise enough to produce the "necessary fine structures" of an "intaglio printing plate" or that Shima is not capable of performing "micro-engraving to produce high-quality products" (Applicants remarks on page 13), it is firstly noted that no degree of precision of the machining is set forth in the rejected claims. Again, it is noted that the features upon which applicant relies (i.e., any degree of precision of the machining) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Secondly, it is noted that it appears that since Shima's method is practiced on a numerically controlled machine tool, it appears that Shima's method is precise.

Regarding Applicant's assertions (page 14 of Applicants' remarks) that the Prince patent teaches "establishing engraving depths *after* calculation of the tool path (an renewal of engraving depth control signals 'with each path'), which is exactly contrary to the claimed invention", these assertions are not persuasive. As described above, the tool path is calculated based on the depth and the desired contour (see col. 2, lines 25-28, for example) as claimed.

Regarding Applicant's assertions with respect to the Cauwet reference on page 14 (that the Cauwet patent "does not make up for the lack of teachings concerning the tool track calculation"), it is noted that Cauwet was not relied upon to teach this feature, but was instead relied upon to teach that it is known to select a known type of engraving tool, e.g., laser vs. rotating milling cutter, based on criteria such as the material of the workpiece being machined (see the above rejection based thereon). Thus, in response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Regarding the rejection of claims based on Lang in view of U.S. Pat. No. 4,970,164 (Guyder), firstly, Applicant has asserted that Guyder "fails to disclose or suggest a method of producing intaglio plates in which removal of a predetermined area of the intaglio plate is carried out...". However, it is noted that Guyder was not relied upon to teach the "intaglio plate". Thus, in response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on

combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Secondly, Applicant has asserted that the art does not teach that the "track of the tool is calculated only on the basis of the predetermined outer contour of the area and the predetermined depth, as claimed". However, it is noted that the features upon which applicant relies (i.e., that the track of the tool is calculated "only" on the basis of the predetermined outer contour of the area and the predetermined depth) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Note that the use of the open language "comprising" in the present claims allows for the inclusion of other steps not set forth in the claims. Secondly, it is noted that the present invention seems to take other things into account than just the shape of the pocket to be machined and the depth thereof when calculating a tool track, such as the type of tool, the size of the tool, as well as the specific type of material removal (e.g., Figure 5b vs. Figure 5c), etc.

Regarding Applicant's assertions in the first full paragraph on page 15 of Applicant's response, it is noted that Applicants' assertions re the Guyder reference do not appear to point out any differences between the present claim language and the Guyder reference. It is noted that Applicant has asserted that "[b]asically, the Guyder patent involves automatic milling to successively larger penetration depths in order to provide a hollowed out area of the work piece, rather calculation (sic) of a tool track to achieve a desired penetration depth for a particular contour". However, note that these depths must still be "predetermined", and that the milling

tool follows a tool track based on these depths, and also based on the contour of the Applicant-described "hollowed out area" in order for the desired area to be machined.

Regarding Applicants' assertion that the Guyder patent does not concern "the fine engraving control required to produce intaglio printing plates", it is again noted that no degree of precision of the machining is set forth in the rejected claims, nor any size or scale of the intaglio printing plate. Again, it is noted that the features upon which applicant relies (i.e., any degree of precision of the machining) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Secondly, it is noted that it appears that since Guyder's method is practiced on a numerically controlled machine tool, it appears that Guyder's method is precise, particularly noting that the "die tools" described by Applicant on page 15 require precision. Furthermore, regarding any scale of the workpiece, it is noted that it appears that if claim language were so provided that conformed with 35 USC 112, it would have been an obvious matter of design choice to scale up or down the tools and method taught by Guyder, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. In re Rose, 105 USPQ 237 (CCPA 1955).

Regarding Applicant's assertions under heading no. 6 on page 15 regarding the Cauwet reference, and specifically that the Cauwet patent "fails to disclose or suggest the step of calculating a tool path by determining the outer contour and the desired depth of an area to be engraved", it is noted that Cauwet was not relied upon to teach this feature, but was instead relied upon to teach that it is known to select a known type of engraving tool, e.g., laser vs.

rotating milling cutter, based on criteria such as the material of the workpiece being machined (see the above rejection based thereon). Thus, in response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Conclusion

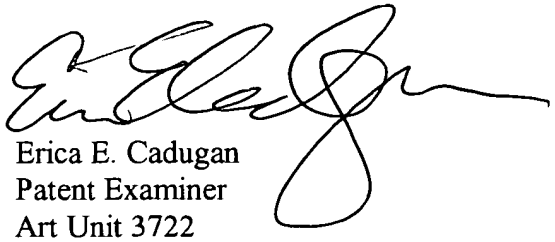
15. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erica E Cadugan whose telephone number is (703) 308-6395. The examiner can normally be reached on M-F, 7:30 a.m. to 5:00 p.m., alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrea L. Wellington can be reached on (703) 308-2159. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1148.



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Art Unit 3722

eec
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